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Master in SMARt transport and LOGistics for cities
SMALOG



Master in SMARt transport and LOGistics for cities



WP 4.4 – Training of UA and GE teachers at EU Universities

UNIVERSITY OF ROME TOR VERGATA

19th – 30th November 2018
Rome, Italy



Aula Giunta – room 02-103
Civil Engineering Building, Engineering School
Via del Politecnico 1, 00133 Rome

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www.smalog.uniroma2.it



1. Project meeting minutes

Place: Civil Engineering Building, University of Rome Tor Vergata, Rome, Italy

Date: 19th – 30th of November 2018

2. Meeting attendees:

University local	Name and Surname
P3 – O. M. Beketov National University of Urban Economy in Kharkiv - NUUE	Yevhen Kush
	Oleksandr Rossolov
P4 – Lviv Polytechnic National University - LPNU	Mykola Zhuk
	Volodymyr Kovalyshyn
P7 – Georgian Technical University - GTU	Giorgi Doborjginidze
	Teimuraz Ugulava
P8 - Batumi State Maritime Academy - BSMA	Konstantin Bolkvadze
	Mamuka Baramidze



3. Programme of Internship

Monday, 19th November 2018

Time	Topic	Speaker(s)
10:30	Participants' arrival <i>Introduction to internship</i>	Antonio Comi
11:00	Introduction to VISUM	Umberto Crisalli
14:00	Exercises with VISUM	Umberto Crisalli

Tuesday, 20th November 2018

Time	Topic	Speaker(s)
10:30	Technical Visit at Control Room of Italian Railway Network <i>place: Roma Termini Railway station (check gate at platform 1)</i>	
14:00	Introduction to Bus Network Operations Control 1 – 2 <i>place: teaching building, room C2</i>	Agostino Nuzzolo

Wednesday, 21st November 2018

Time	Topic	Speaker(s)
10:30	Individual work: transportation supply and demand	
12:00	Practical applications on transportation supply and demand	Antonio Comi
16:00	Time Series: analysis and examples of time series decomposition <i>place: teaching building, room C2</i>	Agostino Nuzzolo Antonio Comi

Thursday, 22nd November 2018

Time	Topic	Speaker(s)
10:30	Individual work/study	
14:00	Time Series: forecast methods and accuracy evaluation Examples of bus travel time forecasting <i>place: teaching building, room C2</i>	Antonio Comi

Friday, 23rd November 2018

Time	Topic	Speaker(s)
10:30	Technical Visit at Metro C <i>place: Metro C station: GIARDINETTI</i>	
14:00	Individual work	



Monday, 26th November 2018

Time	Topic	Speaker(s)
10:30	Individual work/study	
14:00	Urban goods movement: overview, measures and plans Examples of application	Antonio Comi
16:00	Practical applications on urban goods demand	Antonio Comi

Tuesday, 27th November 2018

Time	Topic	Speaker(s)
10:30	Individual work/study	
14:00	Introduction to travel time forecasting Time Series: Exercises with R-project <i>place</i> : teaching building, room C2	Antonio Comi

Wednesday, 28th November 2018

Time	Topic	Speaker(s)
10:30	Logistic costs and modal choice	Antonio Comi
12:00	Effects of actions on freight nodes, financial and economic analysis Practical application: cost benefit analysis of intermodal freight nodes	Antonio Polimeni
16:00	Artificial Neural Networks Examples of travel time forecasting Artificial neural network: exercises with R-project <i>place</i> : teaching building, room C2	Antonio Comi

Thursday, 29th November 2018

Time	Topic	Speaker(s)
10:30	Individual work/study	
14:00	Technical Visit at Almaviva <i>place</i> : via di Casal Boccone 188, Rome	

Friday, 30th November 2018

Time	Topic	Speaker(s)
10:30	Introduction to transport and land use interaction	Pierluigi Coppola
14:00	Examples of applications on transport and land use interaction	Fulvio Silvestri
16:00	Concluding remarks	Antonio Comi



During the meeting, the following topics were covered by the discussion:

Monday, 19th November 2018:

Prof. Antonio Comi opened the meeting and welcomed all participants on behalf of University of Rome Tor Vergata, and he synthesized all programme of Internship in Rome.

At 11.00, Prof. Umberto Crisalli summarised theories on modelling transport systems and explained how to implement in VISUM software. Then, a real test case was developed by each participant.

Tuesday, 20th November 2018

All the participants of the internship in Rome came to the technical visit to the Control Room of the Italian Railway Network (Roma Termini railway station), where they could see all the mechanisms that regulate arrivals, departures and delays in the train system in Italy. At 14.00, Prof. Agostino Nuzzolo gave a lecture on “Introduction to the control of bus network operations”

Wednesday, 21st November 2018

The participants developed an individual work on transportation supply and demand modelling according to the materials shared by lectures in the day before. At 12.00 am, Prof. Antonio Comi gave practical applications on transportation supply and demand, and then in the afternoon Prof. Antonio Comi and Prof. Agostino Nuzzolo gave lectures and practical applications on “Time Series: analysis and examples of time series decomposition”.

Thursday, 22nd November 2018

The participants made an individual work on methods on travel time forecasting. At 14.00, prof. Antonio Comi and Prof. Agostino Nuzzolo gave lectures on time series forecast methods and accuracy evaluation, including some examples of bus travel time forecasting”

Friday, 23rd November 2018

All the participants of the internship in Rome visited the Metro C (automated metro line in Rome) and the Metro Control Center. The meeting point was at Metro C station: GIARDINETTI. Therefore, the Operations Center was reached and the participants were able to learn about the mechanism and strategies that regulate the automatic underground system of Metro C. At 15.00, the participants met at the Department of Enterprise Engineering and developed individual work on forecasting methods applied to transportation.

Monday, 26th November 2018

In the morning, each participants of internship made an individual work or study on transportation (design of freight nodes. freight transport planning). In the afternoon, Prof Comi gave a lecture on



“Urban goods movement: overview, measures and plans”, and some practical applications on urban freight demand forecasting.

Tuesday, 27th November 2018

In the morning, each participant work on individual study on transportation system, and at 14.00 Prof. Antonio Comi and Prof. Agostino Nuzzolo gave lectures on “Introduction to travel time forecasting” and some practical application on “Time Series analyses and forecasting through software R-project”

Wednesday, 28th November 2018

Prof. Antonio Comi opened the morning with a lesson on “Logistic costs and modal choice”. At 12.00 Prof. Antonio Polimeni offered a lectur on “Effects of actions on freight nodes, financial and economic analysis”, and he developed together with participants an “application on cost benefit analysis of intermodal freight nodes”.

At 16.00, Prof. Antonio Comi gave a lecture on “Artificial Neural Networks, Examples of travel time forecasting” and then he provided a practical lesson on “Artificial neural network: exercises with R-project”.

Thursday, 29th November 2018

In the morning, each participant made an individual work on transportation system analysis and scenario assessment. At 14.00 they came to Technical Visit at AlmovivA, via di Casal Boccone 188, Rome to learn about Mobility Operation Platform developed and used by this large enterprise.

Friday, 30th November 2018

Prof. Pierluigi Coppola gave a lecture on “introduction to transport and land use interaction and applications”. At 14.00, Prof. Fulvio Silvestri presented a practical lesson on Exercises on transport and land use interaction through VISUM software.

Then, Prof. Antonio Comi draw conclusions and provided participants with certificate of attendance.